

# PORT OF LIVERPOOL.



## ANNUAL REPORT

OF THE

## MEDICAL OFFICER OF HEALTH

TO THE

## PORT SANITARY AUTHORITY,

FOR THE YEAR

# 1904.


---

[ORDERED BY THE PORT SANITARY AND HOSPITALS COMMITTEE TO BE  
PRINTED, 30TH MARCH, 1905.]

---

LIVERPOOL :  
C. TINLING AND CO., LTD., PRINTING CONTRACTORS, 53, VICTORIA STREET.

1905.



Digitized by the Internet Archive  
in 2017 with funding from  
Wellcome Library

<https://archive.org/details/b29993465>









# PORT SANITARY AUTHORITY

OF

## LIVERPOOL.

---

**REPORT FOR THE YEAR 1904,**

BY THE

MEDICAL OFFICER OF HEALTH.

---

To obtain a comprehensive view of the Port Sanitary administration of Liverpool, it will be necessary to repeat a few details connected with the administration which appeared in former Reports. By statutory powers conferred on it, the Council of the City of Liverpool is the Port Sanitary Authority for the Port of Liverpool. The contributing Riparian Authorities are the Urban Sanitary Authorities of Birkenhead and Bootle, and the Urban District Councils of Bromborough, Lower Bebington and Wallasey.

The Port Sanitary District of Liverpool extends from Formby Point to Dungeon Point on the Lancashire side, then crossing the River Mersey in a straight line to Ince Ferry, it is continued to New Brighton on the Cheshire side, and thence to the mouth of the River Dee at Hilbre Point. The northern parts of this district are practically on the open sea.

“ All waters, docks, quays and the open sea for three miles from shore, all boats, vessels and landing places, and for the purposes of the Public Health Acts, all persons therein, are included in the jurisdiction of the Port Sanitary Authority.”

The docks on the Liverpool side have a river frontage of five and one-half to six miles; whilst those on the Birkenhead side, over which the Authority has also control, extend for one and one-half to two miles inland to the West Float.

The total water area of the Liverpool and Birkenhead Docks is 557 acres, and there is a lineal quayage of 35 miles.

The Authority has also control of the three Garston Docks, situated about five miles up the Mersey. These docks are for the most part used by coasting vessels engaged in the coal trade.

Vessels requiring medical aid or inspection can speak the Formby Lightship, which is situated in the channel ten and one-half miles out. This communication is telephoned to the Port Sanitary Offices situated on the Prince's Pier Head, and the vessels are boarded by the Medical Officer in the river as soon as possible after arrival.

In the River Mersey the tidal range is considerable, and vessels can only enter the docks when the gates open, and this is usually two hours before high water.

Vessels from infected ports, bound for Manchester are examined, and dealt with in the same way as Liverpool ships.

Smallpox cases on Manchester bound vessels are removed to Liverpool hospitals by a voluntary arrangement between the Sanitary Authorities.

In the Port of Liverpool, as, no doubt, in other ports, Customs Officers, in the discharge of the obligations imposed upon them by Orders of the Local Government Board, are the first to receive information of the presence of sickness on board vessels. This is at once communicated to the Port Sanitary Offices, and cases of a doubtful or infectious nature are at once visited by the Medical Officer.

Any vessel from an infected port, *i.e.*, a port infected with cholera, yellow fever, or plague, or on board of which this form of infectious disease has occurred, wishing to enter any dock within the district, must produce a certificate from the Medical Officer, stating that

she may so enter. This certificate is handed to the Dockmaster. The above-mentioned arrangement has been arrived at owing to the help afforded by the Mersey Docks and Harbour Board, which controls the docks, and recognises the necessity of keeping the docks and City free from all serious forms of infectious disease.

Manchester vessels coming from infected ports are dealt with by Local Government Board Order, and a docking certificate is issued, to be handed to the Eastham Dockmaster.

Cases of infectious disease which require removal to the Port Hospital at New Ferry, are conveyed in the tug provided by the Authority, and landed at the Hospital jetty.

The majority of patients, however, suffering from various infectious complaints or general sickness, are removed to the City Hospitals from the dock after the vessel has been berthed.

The quarantine ground lies up the river, about two miles from the landing stage, and is close to the Port Hospital. This abuts on the River Mersey, is well isolated, and the grounds are surrounded by a high wall or railings.

There is accommodation for 50 patients, with all modern requirements, such as ample bathing and lavatory accommodation. A home for the Nurses, a laundry and disinfecting apparatus, were erected two years ago.

The trade of the Port is rapidly increasing, especially with the United States of America, and Liverpool has now one-fourth of the total sailings of ships between the United Kingdom and United States, while as to the tonnage it has almost one-half. The total number of vessels paying harbour dues during the year ending June, 1904, and according to the returns of the Dock Board, was 25,400. This number of vessels represents 15,600,000 in total tonnage. As a result of this progressive increase in the trade of the Port, together with the marked increase in recent years in the passenger service, the danger of importation and spread of serious forms of sickness has also increased.



## INFECTIOUS DISEASE.

---

The continued prevalence of plague, cholera and smallpox in the East has rendered imperative the usual inspection of ships coming from infected countries. This inspection has been carefully carried out during the year by Dr. Hanna and Dr. Roberts.

The following ports were considered during the year as infected with plague, cholera, or smallpox:—Bombay, Karachi, Calcutta, Smyrna, Rio Janeiro, Buenos Ayres, Rosario, River Plate ports, and Aden.

As usual, the chief part of the work was directed to examining vessels from plague-infected districts. Careful enquiries were always made and precautions taken as regards rats on board ship from these localities. The occurrence of plague cases on board ships arriving in Hamburg and London from Rosario and the River Plate district rendered it necessary to place these ports on the infected list.

The water supply and tanks of all vessels were carefully examined, and directions given for cleansing of the tanks when it was considered necessary.

During the year the following ships brought patients suffering from suspicious buboes. These were removed to the Port Hospital for observation:—s.s. City of Delhi, from Karachi; s.s. Knight of the Garter, from Bombay (this ship landed a case of plague at Suez); s.s. Clan Macleod, from Bombay; s.s. Merton Hall, from Karachi; and the s.s. Conway, from Rio de Janeiro.

**Rats.**—The part played by these rodents in connection with the dissemination of plague still continues to be of paramount importance in methods of prevention. Special regulations have been drawn up by the International Sanitary Convention of Paris, 1903, relating to the fumigation of vessels for rat destruction.

In Liverpool experienced and reliable professional ratcatchers are employed in trapping rats on board ships from infected ports. These rats, when caught, are all examined bacteriologically by the Corporation bacteriologist for evidences of plague infection. The number caught



during the year was 4,632 on board 139 ships, and none were found to be infected with plague. The ratcatchers report any sickness or unusual mortality existing amongst the rats on board.

Fumigation is only practised when a ship is found to be infected, or as a precautionary measure under the articles of the Convention.

**Disinfection.**—A report made to the Local Government Board, by Dr. Haldane, F.R.S., and Dr. Wade, on the destruction of rats and disinfection on shipboard, has just been issued. It contains full particulars of experiments to determine the utility of the Clayton and other processes for ship fumigation, amongst them the following:—The s.s. Bavaria (3,000 tons) was treated by the Clayton Company at Dunkirk, in the presence and under the observation of Dr. Haldane. As a result of these experiments it was found that the sulphurous acid failed to penetrate the cargo in the holds of the s.s. Bavaria, and after unloading several live rats, mice and crickets were found. Now, if even .5 per cent. of sulphurous acid had been present in the air in the interstices of the cargo, the rats and other animals would have been destroyed. The failure of the gas to penetrate was due, as Dr. Haldane points out, to insufficient time having been given to the operation. Apart, however, from the time required, it has been found that many articles of cargo, such as seeds, grain, jute, &c., absorb the gas rapidly. Other processes, such as the combustion of sulphur, liquid  $\text{SO}_2$ , carbonic oxide, &c., were afterwards tried and discussed, and it was pointed out that the choice will largely depend on circumstances whether all vessels (infected and non-infected) or only infected vessels are to be dealt with. The above results confirm the experiments of Professor Proust and Dr. Faivre in their Report to the Minister of Interior, 1902, on the results of disinfection by the Clayton process of the holds of seven loaded vessels, and from all the evidence at present available Dr. Haldane concludes that the Clayton process is most effective in destroying rats and other vermin, in cabins and empty holds, but that there is no satisfactory evidence as yet that it is practicable without considerable delay and inconvenience to make it equally effective in holds which are full.

Experience in recent years shows that, if ordinary precautions be taken, the risk of spread of plague in European ports is very small, probably no greater than that in the case of smallpox.

**Quarantine and Disinfection.**—The modifications in quarantine measures, and the additional regulations regarding rats, that are the outcome of the Sanitary Convention of 1903, are worthy of attention. These alterations will chiefly affect and modify the action of foreign countries where quarantine measures have been in evidence in the past. In England, on the other hand, it has been the custom for years to carry on the work of Port Sanitary Administration on lines similar to those laid down in the articles of the present Convention by giving every freedom to vessels after they have been disinfected, and by a well organised sanitary staff to keep those likely to develop disease under surveillance.

The attention of Consuls and others interested is drawn to articles 7 and 9 of the resolutions of the Convention, to be found in the appendix. These articles deal with the conditions which permit a district to be considered infected or to have become healthy.

It will be seen that the notification of a *first case* of plague or cholera shall not lead to the adoption of measures of defence on the part of other countries against the local area in which the case occurred. But when several *non-imported* cases of plague have occurred, or when the cases of cholera constitute a centre of dissemination, the local area shall be declared infected.

By Article 9, in order that a local area cease to be regarded as infected, it must be officially established:

1. That no death from or fresh case of plague or cholera has occurred within the *five days* following the isolation, or the death or recovery of the last case of plague or cholera.
2. That all measures of disinfection have been carried out, and that, in the case of plague, measures have been taken against rats.

### **Consular Health Certificates.**

During the last year the demand for certificates indicating the freedom of the city from quarantinable infectious sickness showed a slight increase, the number of certificates of this character issued to merchants and shipowners for various Consular purposes during 1904 being 463.



## Distribution of Plague, Cholera and Yellow Fever during the year.

---

**Plague.**—This disease is still prevalent in many parts of the world. So far none of the cases imported into England have given rise to any alarm or anxiety as to the possibility of spread, the cases having been promptly diagnosed and isolated by the various Port Sanitary Authorities concerned.

In Europe no extensive outbreak of plague has occurred during the year. One death took place as a result of inoculation with plague cultures in a laboratory at Cronstadt. Plague rats were found on the s.s. "Bishopsgate" at Hamburg, and a German sailor, who was engaged clearing up the holds, subsequently contracted the disease, and was isolated by the authorities at South Shields. Very probably this sailor contracted the disease by direct inoculation from rat infection. He stated that he had often walked about his cabin bare-footed. The s.s. "Weybridge" also brought a case to London from the River Plate. In the latter part of the year, in the Ural and Vigatka provinces of Russia, some hundreds of cases occurred.

In India the disease still continues to be very prevalent, the chief centres being the Bombay Presidency, the United Provinces, and the Punjaub. The Presidency records a heavy death-roll from this disease, the total number of plague cases reported during the year being about 425,160, with 299,840 deaths.

Plague is still prevalent in China, at Canton, Foochow, and Hong Kong. In Formosa about 4,000 cases and 3,000 deaths occurred during the year. An outbreak occurred in March, 1904, at Johannesburg amongst the Chinese coolies. As soon as arrangements could be made, the inmates of the coolie quarters were removed and the places burned to the ground, and the whole town was subjected to strict sanitary supervision. During the outbreak about 148 cases and 96 deaths occurred, but thanks to the precautions taken, no extension from Johannesburg to the coast took place. Plague, however, was present to a slight extent amongst rats and man on the coast.

In the Argentine, especially in Salta State, plague still continues; in Chili, at Iquique and Valparaiso; in Peru, at Callao, Lima, &c.; in Brazil, at Bahia and Rio de Janeiro, and the epidemic was rather severe at the latter port.

In Australia the disease still exists in its old haunts of 1903, viz.: Townsville, Brisbane, Sydney, and Perth. In Mauritius, and in Manilla in the Philippine Islands, severe outbreaks occurred.

**Cholera.**—In India, Bombay and Calcutta were chiefly affected.

The Philippine Islands, which suffered badly in 1903, still continued to harbour the disease.

Regarding the prevalence of this disease in the Far East, it is of interest to note the spread of the cholera epidemic, which started in Mecca in 1902. It spread by both land and sea routes to many towns in Arabia. By the maritime route it reached the basin of the Mediterranean, and ravaged the whole of Egypt, where it caused 33,000 deaths. It spread to Gaza, southern and northern Palestine, and thence crossing to Mesopotamia reached the Euphrates in the end of 1903. In January, 1904, Bagdad was infected, and during the year 1904 10,000 cases and 9,000 deaths occurred in the Turkish Empire. From Bagdad it reached Bussora and Teheran, from Bussora it extended to the west side of the Persian Gulf, and from Teheran it reached Russia at Baku and the Volga, attacking Astrakhan, Samara and Saratow. It also extended to the Trans-Caspian provinces of Russia.

In Egypt, in 1904, cholera almost entirely disappeared. Suez being the only town recording any marked prevalence.

**Yellow Fever**—This disease still exists in certain tropical countries, as will be seen from the map. Apart from the danger of personal infection in those quarters of the world where it is prevalent, this disease has now no great interest in the matter of quarantine to European countries, the necessary transmitting agents not being found in these temperate climates.

### **Smallpox.**

Comparatively few cases of this disease arrived in the port during the year.



Only three vessels, bringing six cases, arrived in the river. These were s.s. "Glenpark," from Hamburg (1 case); s.s. "Indore," from Baltimore (4 cases); s.s. "Alexandria," from Constantinople (1 case). The patients were all removed to the Port Hospital, and the ships thoroughly disinfected in the river before docking. All the crew and passengers were re-vaccinated in each case, and contacts removed to hospital for observation.

### Enteric Fever.

The number of cases of this disease landed in Liverpool was in excess of the previous year. During 1904 the number totalled 38.

The majority of ships bringing enteric fever were passenger vessels, and came from North American ports, and as a rule the patients were members of the crew or steerage passengers.

During previous years vessels from the River Plate have brought the majority of the cases, and it was considered advisable to analyse the nature of the River Plate water supply. The following table shows the chemical analysis of samples taken on board seven vessels. The water in every case was said to have been obtained near the Chico Bank at points in the river between the Roads and the Indio lightship.

In reviewing the analyses of the samples, we have to infer the condition of the water when it was shipped from its condition as we find it when it arrives in Liverpool. As pathogenic organisms disappear rapidly from water, the chemical analysis assumes even greater importance than it ordinarily would possess. Five of the samples contain large quantities of chlorides, which may indicate that a small proportion of tidal water has mixed with the fresh water; but this of itself is of very little importance, because large quantities of chlorides are often found in good well waters.

The appearance of some of the waters is bad owing to the large quantity of fine river mud and basic salt of iron from tanks; but these are easily removed by filtration, and have no sanitary importance in themselves. The filtered water of several samples contains a considerable amount of organic matter. It must be realised, however, that during certain months of the year the storms of rain in the Brazilian provinces and the melting snows of the Cordilleras find their way to the rivers Parana and Uruguay, and these carry down much decomposing material of a carbonaceous and vegetable nature.

TABLE 1.

CHEMICAL ANALYSIS OF RIVER PLATE WATER.

RESULTS EXPRESSED IN PARTS PER 100,000.

No.	Name of Ship.	Total solid matter in solution.	Oxygen required to oxidise in		Ammonia.	Ammonia from Organic Matter.	Nitrogen as Nitrates.	Combined Chlorine.	Remarks.
			15 min.	3 hours.					
1	Highland Corrie ...	72·72	·056	·108	·002	·010	·021	34·50	Only trace of deposit, Alkaline reaction. Very few organisms.
2	Brittany ...	41·76	·072	·129	·001	·011	·021	17·30	Turbid with clay particles stained with iron. Few organisms.
3	Cadiz ...	55·76	·033	·069	·001	·006	·000	22·65	Clear, slightly coloured. Alkaline reaction, a small quantity of iron. A few organisms.
4	Morpeth ...	80·80	·031	·057	·002	·006	·000	35·00	Clear, faintly yellow, alkaline. Minute siliceous particles. Very few diatoms.
5	Asterloa ...	31·64	·059	·105	·011	·012	·021	4·00	Slightly turbid and yellow. Minute mineral particles. Alkaline reaction.
6	Barbary ...	49·68	·056	·099	·006	·008	·021	21·40	Suspended solids are finely divided. Oxide of iron, and fine clay mud with siliceous particles.
7	Beacon Grange ...	15·88	·079	·132	·002	·011	·000	3·00	Slightly opalescent and coloured. Small ferruginous deposit. Alkaline reaction. A few organisms (infusoria and bacteria).



**Professor Campbell Brown's Remarks.**

---

- 1.—Very salt, but good water otherwise.
- 2.—Not a bad water, if filtered to remove the mechanical impurities.
- 3.—Very salt, and not quite free from minute life.
- 4.—Very salt, with excessive amount of mineral salts; but the organic matter is moderate, and the water not unwholesome.
- 5.—This sample contains a large quantity of organic matter, and no excess of mineral matters. It contains no sea-water.
- 6.—This water suggests river water near an estuary, with river mud included. The iron probably comes from tanks. The oxygen consumed is very high, and a casual observer might think this indicated very bad water. I point out, however, that the iron must be present partly as ferrous basic salt, that the amount of ammonia and nitrogen is very low in comparison with oxygen consumed in three hours. The oxidisable matter is mainly carbonaceous or vegetable. On the whole the water is not good, but not nearly so bad as it seems.
- 7.—Contains a considerable amount of organic matter, and wants filtration. The taste is smoky, but the water, in my opinion, is not unwholesome. There is not much chloride.

TABLE 2.

## Enteric Fever Importations during 1904.

Date.	Ship.	From.	Number of Patients.	Remarks.
Feb. 1	<b>Cyprian Prince.</b>	Syrian Coast ...	Seaman ... ..	...
„ 11	<b>Welshman</b> ...	Portland, Me....	Cattleman ... ..	...
„ 15	<b>Kent</b> ... ..	Buenos Ayres ...	Apprentice ... ..	4th engineer was left at Montevideo.
Mar. 11	<b>Carpathia</b> ...	New York... ..	Steward ... ..	...
„ 16	<b>Welshman</b> ...	Portland, Me....	Lamp-trimmer ...	...
April 2	<b>Campania</b> ...	New York... ..	Steward ... ..	...
„ 20	<b>Orissa</b> ... ..	Valparaiso ...	Steward ... ..	...
„ 23	<b>Sidra</b> ... ..	Buenos Ayres ...	Engineer ... ..	A case occurred on the voyage and proved fatal.
„ 28	<b>Thorpe Grange.</b>	Buenos Ayres ...	Engineer ... ..	...
May 17	<b>Cretic</b> ... ..	New York... ..	Steward ... ..	...
June 7	<b>Weehawken</b> ...	Newport News..	Seaman ... ..	...
„ 18	<b>Devonian</b> ...	Boston ... ..	Cattleman ... ..	...
„ 23	<b>Belgenland</b> ...	Philadelphia ...	Steerage passenger	...
July 13	<b>Westernland</b> ...	Philadelphia ...	Butcher and Engineer (2)	...
„ 16	<b>Ionian</b> ... ..	Montreal ... ..	Quarter-master ...	...
„ 25	<b>Lake Champlain</b>	Montreal ... ..	Steerage passenger	...
„ 29	<b>Barbadian</b> ...	New Orleans ...	Quarter-master ...	...
Aug. 6	<b>Vancouver</b> ...	Montreal ... ..	2 of the crew were admitted Bootle Hospital and another of the crew was treated at his home in Bootle	A case was also landed in hospital at Montreal on the previous outward passage.
„ 23	<b>Kensington</b> ...	Montreal ... ..	3 of the crew were admitted Bootle Hospital	A steward was removed to hospital at Montreal on the previous outward passage.



TABLE 2—*Continued.*

Date.	Ship.	From.	Number of Patients.	Remarks.
Sept. 19	<b>Bavarian</b> ...	Montreal ...	Steerage passenger	...
,, 20	<b>Southwark</b> ...	Montreal ...	Steward ...	...
Oct. 1	<b>Arracan</b> ...	Rangoon ...	2nd officer ...	...
,, 10	<b>Vancouver</b> ...	Montreal ...	Steerage passengers (2)	...
,, 15	<b>Barbary</b> ...	River Plate ...	Steward ...	...
,, 31	<b>Tunisian</b> ...	Montreal ...	Passenger ...	...
Nov. 4	<b>Barbadian</b> ...	New Orleans ...	Trimmer ...	...
,, 5	<b>Merion</b> ...	Philadelphia ...	Steward ...	...
,, 19	<b>Allie</b> ...	Gaboon ...	Fireman ...	...
,, 21	<b>Saxonia</b> ...	Boston ...	Fireman ...	...
,, 22	<b>Canada</b> ...	Montreal ...	Steerage passenger	...
,, 30	<b>Cymric</b> ...	New York...	Steward ...	...
Dec. 13	<b>Ivernia</b> ...	Boston ...	Steward ...	...

Disinfection of the patient's clothing, and the quarters, &c., occupied by him during his illness, was carried out in each case.

#### Scarlet Fever, Measles, etc.

Of other infectious diseases mainly affecting passenger immigrants and those attending on them, such as stewards, the following were brought to Liverpool:—

Scarlet Fever, 5; Measles, 32; Typhus, 1; Chickenpox, 4; Diphtheria, 4; Erysipelas, 1; and Parotitis, 3.

### Phthisis.

Phthisis cases still continue to be in evidence on board ship, and thirty-four cases came under notice during the year. Thorough disinfection was carried out in each case after the landing or death of the patient. Ships' surgeons and captains fully recognise the infectious character of the disease, and before the ship has reached port have, as a rule, taken every precaution regarding destruction of bedding and patients' effects and the washing down of quarters.

A great majority of these phthisis cases are to be found amongst passengers on board ship. These are in all probability returning from long sea voyages, or from milder climes, after a sojourn there for the sake of their health.

### Beri-Beri.

Twenty-two cases of beri-beri occurred on board ships bound for Liverpool, and were reported to the Authority.

Fifteen of these cases were landed in Liverpool, and thirteen removed to the Southern Hospital for treatment.

The Norwegian barque "Ilse" left Tuxpan, Mexico, on May 26th, and arrived in Liverpool on August 16th. This vessel had six cases during the voyage, all more or less ill.

The vessel touched at Falmouth, where the boatswain died two hours after arrival. The usual signs and symptoms presented themselves, viz., lassitude, weakness and swelling of the legs. The food on board was of the usual character—preserved fish (including salmon and dry stock fish), salt beef and pork, rice (bi-weekly), beans, peas. The only fresh meat the men had was a little at Tuxpan.

The Norwegian barque "Sunniva" left Hucaro, Cuba, on June 28th, and arrived in Liverpool on August 18th. Eight members of the crew were laid up during the voyage. The majority complained of weakness of the muscles and swelling of the legs. One or two were unable to walk, and had no swellings, the nerves being chiefly affected.

The crew had preserved food, tinned beef, dry stock fish, &c., the food resembling that on the "Ilse." The cases removed to hospital all recovered.

TABLE 3.

## INFECTIOUS DISEASE.

The actual number of cases of infectious sickness landed from vessels arriving in the Port of Liverpool during the years 1903 and 1904, and the comparison with the average of the preceding 10 years, is shown in the following Table:—

Diseases.	Number of Cases.		Average for the 10 years preceding 1904.
	1903.	1904.	
Smallpox... ..	24	6	13·1
Scarlatina .....	6	5	8·3
Typhus Fever .....	0	1	0·6
Enteric Fever .....	32	38	28·5
Diphtheria .....	7	4	3·5
Measles .....	12	30	12·3
Whooping Cough .....	0	0	0·4
Erysipelas .....	5	1	3·7
Chicken Pox .....	7	4	4·5
Cholera and Choleraic Diarrhœa .	0	0	0·0
Yellow Fever.....	0	0	0·3
Plague .....	0	0	0·4
Suspected Plague .....	2	5	1·8
German Measles .....	2	2	0·5
Puerperal Fever .....	0	0	0·2
Parotitis .....	2	3	0·9
Totals .....	99	99	79·0



TABLE 4.

## INFECTIOUS DISEASE.

The number of cases of infectious sickness reported to have occurred on Liverpool-bound ships during the years 1903 and 1904, and which were disposed of prior to the arrival of the vessel at this port, and the average of such cases for the preceding 10 years, are as follows:—

Diseases.	Number of Cases.		Average for the 10 years preceding 1904.
	1903.	1904.	
Smallpox .....	19	4	5·9
Scarlatina .....	0	3	0·5
Typhus Fever ... ..	0	0	0·1
Enteric Fever .....	1	19	3·9
Diphtheria.....	1	1	0·5
Measles .....	7	12	1·7
German Measles .....	0	1	0·0
Erysipelas .....	0	1	0·2
Chicken Pox .....	1	1	0·6
Cholera and Choleraic Diarrhœa	1	0	2·2
Yellow Fever... ..	22	0	4·8
Plague .....	0	2	0·5
Suspected Plague.. ..	1	2	0·1
Totals.....	53	46	21·0

## GENERAL SICKNESS.

TABLE 5.

Malaria ... .. 249	Tonsilitis ... .. 3
Tuberculosis ... .. 34	Ophthalmia ... .. 2
Heart Disease ... .. 31	Alcoholism ... .. 2
Venereal Diseases ... .. 28	Fever ... .. 2
Pneumonia ... .. 23	Catarrh of Bladder ... .. 1
Beri-beri ... .. 22	Enteritis ... .. 1
Rheumatism ... .. 20	Lumbago ... .. 1
Diarrhoea ... .. 16	Gastric Anaemia ... .. 1
Diseases of the Nervous System ... 15	Influenza ... .. 1
Dysentery ... .. 10	Septicaemia ... .. 1
Bronchitis ... .. 9	Peritonitis ... .. 1
Cancer ... .. 5	Gout ... .. 1
Gastritis ... .. 4	Asthma ... .. 1
Pleurisy ... .. 4	Nicotine Poisoning ... .. 1
Skin Disease ... .. 4	Tumour ... .. 1
Dropsy ... .. 4	Tetanus ... .. 1
Hernia .. ... 3	Hæmorrhoids ... .. 1
Disease of Liver ... .. 3	Suicide ... .. 1
Disease of Kidneys ... .. 3	Black Water Fever ... .. 1
Senile Decay ... .. 3	Minor Ailments ... .. 67

The following Table gives the particulars of the 88 vessels reported the measures adopted in each case :—

TABLE 6.

Date 1904.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Jan. 29	<b>City of Delhi..</b>	Karachi ...	Suspected ... Plague.	New Ferry ...
Feb. 1	<b>Cyprian Prince</b>	Syrian Coast	Enteric Fever	Grafton Street...
Feb. 2	<b>St. Elvies ...</b>	In the West Float	Scarlatina ...	Liscard ...
Feb. 2	<b>Knight of the Garter</b>	Bombay ...	Suspected ... Plague.	New Ferry ...
Feb. 11	<b>Welshman ...</b>	Portland, Maine	Enteric Fever	Netherfield Road
Feb. 15	<b>Kent ...</b>	Buenos Ayres	Enteric Fever	Netherfield Road
Feb. 17	<b>Oceanic ...</b>	New York	Measles ... (2 cases)	Brownlow Hill..
Feb. 28	<b>Arracan ...</b>	Rangoon ...	Diphtheria ...	Park Hill ...



on arrival as having, or having had, Zymotic Diseases on board, with

---

REMARKS.

---

The patient, a Lascar, one of the crew, was removed by tugboat to the Port Hospital, New Ferry. The vessel proceeded into dock under fumigation. The case proved to be non-infectious.

The patient, one of the crew (a seaman), was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, a boy, son of the ship keeper, was removed to the Liscard Hospital. The vessel and bedding were disinfected by the Port Sanitary Officers and City Staff.

This vessel had landed one of the crew at Suez, suffering from Plague. Disinfection was carried out at Suez. On arrival at this Port the crew were medically examined, and a Lascar, who had high fever and enlarged glands, was removed to the Port Hospital. The case proved to be non-infectious.

The patient (a cattleman) was removed to the City Hospital North, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, one of the crew, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers.

The patients, steerage passengers, were removed to the Brownlow Hill Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The Second Officer of this vessel, who was suffering from Diphtheria, was removed to the City Hospital, Park Hill, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

Date 1904.	Name of Vessel.	Where from	Nature of Sickness.	Hospital to which Patient was removed.
Mar. 3	<b>Cedric</b> ...	New York ...	German ... Measles.	... ..
Mar. 11	<b>Carpathia</b> ...	New York ...	Enteric Fever	... ..
Mar. 16	<b>Welshman</b> ...	Portland, Maine	Enteric Fever	Netherfield Road
Mar. 19	<b>Lucania</b> ...	New York ...	Scarlatina ...	Netherfield Road
Mar. 14	<b>Cornwall</b> ...	River Plate...	Enteric Fever	... ..
Mar. 24	<b>Pretorian</b> ...	St. John's, N.B.	Diphtheria ...	Park Hill ...
Mar. 28	<b>Umbria</b> ...	New York ...	Scarlatina ... (2 cases)	Park Hill ...
April 2	<b>Campania</b> ...	New York ...	Enteric Fever	Grafton Street...
April 6	<b>Majestic</b> ...	New York ...	Measles ... (3 cases)	Brownlow Hill..

---

REMARKS.

---

The patient, a saloon passenger, being convalescent on arrival and free from infection, was allowed to proceed. The vessel and bedding were disinfected by the Port Sanitary Officers and City Staff.

The patient (one of the Stewards) being convalescent, proceeded to his home. The vessel and bedding were disinfected by the Port Sanitary Officers and City Staff.

The lamp-trimmer of this vessel, who was suffering from Enteric Fever, was removed to the City Hospital North, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, a Steward, was removed to the City Hospital North, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

Three of the crew of this vessel were left in Hospital at Buenos Ayres, suffering from Enteric Fever. Disinfection was carried out at Buenos Ayres.

The patient, the daughter of a passenger, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patients, two passengers, were removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

One of the Stewards of this vessel, who was suffering from Enteric Fever, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patients (passengers) were removed in the City ambulance to the Brownlow Hill Hospital.



Date 1904.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
April 11	<b>Yorkshire</b> ... (Steam Trawler)	...	Measles ...	Brownlow Hill..
April 11	<b>Glenpark</b> ...	Hamburgh ... via Dartmouth	Smallpox ...	New Ferry ...
April 12	<b>Dominion</b> ...	Portland, Maine	Measles ...	... ..
April 20	<b>Orissa</b> ...	Valparaiso ...	Enteric Fever ...	... ..
April 21	<b>Noordland</b> ..	Philadelphia	Measles ...	... ..
April 23	<b>Celtic</b> ...	New York ...	German Measles. ...	... ..
April 23	<b>Sidra</b> ...	Buenos Ayres	Enteric Fever	Netherfield Road
April 28	<b>Indore</b> ...	Baltimore ...	Smallpox ... (4 cases)	New Ferry ...

## REMARKS.

The Boatswain of this trawler was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient and a contact were removed to the Port Hospital. This vessel had left cases of Smallpox at Lisbon and Dartmouth. No re-vaccination was done until the vessel arrived in Liverpool, when disinfection was also carried out.

The patient, one of the crew, an A.B., being convalescent on arrival and free from infection, proceeded home.

The patient arrived by this vessel some days previously, and went to his home in the City, from which address it was notified. Disinfection carried out.

This patient, a passenger, was removed in the City ambulance to his home in Bootle. Disinfection carried out by the Port Sanitary Officers.

The patient, being convalescent and free from infection, was allowed to proceed home. Disinfection carried out by the Port Sanitary Officers.

The patient, one of the crew, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The first patient, a Negro cattleman, came from a lodging-house in Baltimore. He developed symptoms of Smallpox the day after sailing from Baltimore (16th of April), and was at once isolated in an empty cattle stall, and attended to by the Captain, who had been recently re-vaccinated. On arrival at this Port he was removed to Hospital, together with 26 cattlemen, the latter for observation. All the crew (50 in number) were re-vaccinated, as well as the 26 cattlemen, who could not show evidence of recent vaccination. Three of the cattlemen under observation developed the disease the day after admission into Hospital. One of these, who had never been vaccinated, died. Complete disinfection of the vessel and bedding was carried out by the Port Sanitary Officers and City Staff.

Date 1904.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
April 28	<b>Thorpe Grange</b>	Buenos Ayres	Enteric Fever	Grafton Street ..
April 30	<b>Campania</b> ...	New York ..	Measles ... (3 cases)	... ..
May 9	<b>Arabic</b> ...	New York ...	Measles ... (2 cases)	... ..
May 12	<b>Haverford</b> ...	Philadelphia..	Chicken-pox..	... ..
May 17	<b>Cretic</b> ...	New York ...	Enteric Fever	Netherfield Road
May 19	<b>Iyernia</b> ...	Boston ...	Scarlatina ... and Measles (2 cases)	Park Hill ...
May 24	<b>Bavarian</b> ...	Montreal ...	Measles ...	Park Hill ...
May 24	<b>Oravia</b> ...	Valparaiso ..	Measles ...	Park Hil ...
May 26	<b>Noordland</b> ...	Philadelphia	Measles ...	... ..
May 26	<b>Cedric</b> ..	New York ...	Measles ... (2 cases)	. ...



## REMARKS.

The patient, one of the Engineers of this vessel, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

Three cases occurred during the passage home. Two of these were landed at Queenstown, the other, on arrival at this Port, being convalescent and free from infection, proceeded home. The vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patients, both convalescent and free from infection, proceeded home. Disinfection carried out.

The patient (a passenger) being convalescent and free from infection, was allowed to proceed. Disinfection of vessel carried out.

The patient (one of the Stewards) was removed from his home, No. 1, Eleanor Street, to the City Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patients were removed to the City Hospital, Park Hill, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, an adult steerage passenger, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

Several cases occurred on the outward voyage. Disinfection was carried out at Philadelphia.

The patients, being convalescent on arrival and free from infection, were allowed to proceed. Disinfection carried out.

Date 1904.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
May 28	<b>Campania</b> ...	New York ...	Measles ... ..	...
May 31	<b>Pretorian</b> ...	Montreal ...	Measles ... ..	...
June 4	<b>Etruria</b> ...	New York ...	Measles ... (2 cases)	Park Hill ...
June 6	<b>Lake Manitoba</b> ...	Montreal ...	Measles ... ..	Park Hill ...
June 7	<b>Weehawken</b> ..	Newport News	Enteric Fever	Grafton Street...
June 16	<b>Ivernia</b> ...	Boston ...	Diphtheria ...	Mill Lane ...
June 16	<b>Ivernia</b> ...	Boston ...	Chicken-pox..	Fazakerley ...
June 18	<b>Devonian</b> ...	Boston ...	Enteric Fever	Grafton Street...
June 21	<b>Clan McLeod</b>	Bombay ...	Suspected ... Plague.	New Ferry ...
June 21	<b>Dominion</b> ...	Montreal ...	Measles ... ..	Park Hill ...

## REMARKS.

The patient, a passenger, was convalescent and free from infection on arrival, and was allowed to proceed. Disinfection carried out by the Port Sanitary Officers.

One of the passengers, who had suffered from Measles during the homeward voyage, was landed at Moville. Disinfection carried out by the Port Sanitary Officers.

The patients, two passengers, were removed to the City Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, a passenger, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

One of the crew, a seaman, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, a passenger, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

Patient removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, a cattleman, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, one of the crew (a Lascar) was removed to the Port Hospital for observation, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff. The sickness proved to be non-infectious.

The patient, a passenger, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.



Date 1904.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
June 23	<b>Belgenland</b> ...	Philadelphia..	Enteric Fever	Netherfield Road
July 4	<b>Alexandria</b> ...	C'stantinople.	Smallpox ...	New Ferry ...
July 4	<b>Parisian</b> ...	Montreal .	Measles ...	... ..
July 9	<b>Lucania</b> ...	New York ...	Measles ...	Park Hill ...
July 13	<b>Westernland</b>	Philadelphia .	Enteric Fever (2 cases)	Netherfield Road
July 16	<b>Ionian</b> ...	Montreal ...	Enteric Fever	Netherfield Road
July 20	<b>barque Howth</b>	In Wapping Dock.	Chicken-pox .	... ..
July 21	<b>Carpathia</b> ...	New York ...	Measles ...	Park Hill ...
July 21	<b>Carpathia</b> ...	New York ...	Erysipelas ...	Brownlow Hill.,
July 21	<b>Baltic</b> ...	New York ...	Measles ... (2 cases)	... ..

## REMARKS.

The patient, one of the passengers, was removed to the City Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, the donkey-engine man, was removed by tugboat to the Port Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers.

The patient, a child, being convalescent and free from infection, was allowed to proceed. Disinfection carried out.

The patient, a child passenger, was removed to the City Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patients, two of the crew, the Butcher and an Engineer, were removed to the City Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The Quartermaster of this vessel was removed to Hospital suffering from Enteric Fever, and the vessel and bedding were disinfected by the Port Sanitary Officers.

The Captain of this vessel suffered from Chicken Pox. He was isolated and nursed on board. On his recovery the vessel and bedding were disinfected by the Port Sanitary Officers.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The Second Steward, who was suffering from Erysipelas, was removed to the Brownlow Hill Hospital. Disinfection by the Port Sanitary Officers and City Staff.

Both cases were convalescent on arrival, and being free from infection were allowed to proceed. Disinfection carried out.

Date 1904.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
July 23	<b>Circassia</b> ...	Bombay ...	Plague ...	... ..
July 23	<b>Campania</b> ...	New York ...	Chicken-pox..	... ..
July 25	<b>Lake Champlain</b>	Montreal ...	Enteric Fever	Grafton Street...
July 29	<b>Barbadian</b> ...	New Orleans.	Enteric Fever	... ..
Aug. 6	<b>Vancouver</b> ...	Montreal ...	Enteric Fever (3 cases)	Bootle ...
Aug. 16	<b>Ilse</b> ...	Tuxpan ...	Beri-beri ...	... ..
Aug. 18	<b>Sunniva</b> ...	Cuba ...	Beri-beri . . (8 cases)	Royal Southern.



---

REMARKS.

---

The patient, a Lascar fireman, was landed at Suez on the homeward passage, and the vessel fumigated there. On arrival at this Port the native quarters were sprayed and washed down.

The patient, convalescent on arrival and free from infection, was allowed to proceed. Disinfection carried out.

The patient, a steerage passenger, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, the Quartermaster of this vessel, was convalescent on arrival, and proceeded to his home. The vessel and bedding were disinfected by the Port Sanitary Officers and City Staff.

Four cases of Enteric Fever had been landed at Montreal on the outward passage. On the return passage to Liverpool several of the crew, including the Captain, suffered from Diarrhœa, which the Surgeon considered to be of a non-infectious nature, and hence no notification was sent to the Medical Officer of Health. Three of these ultimately proved to be Enteric Fever, and were removed from their homes in Bootle to the Bootle Infectious Hospital.

This vessel had six cases of Beri-Beri during the voyage. All of these were landed at Falmouth, where the mate died. The vessel and bedding were disinfected by the Port Sanitary Officers and City Staff.

This vessel brought eight men suffering from Beri-Beri. They were all removed to the Royal Southern Hospital. Some of them were seriously ill. The living quarters were disinfected, and the water tanks emptied and cleansed. Samples of the food were obtained for examination.

Date 1904:	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Aug. 23	<b>Kensington</b> ...	Montreal ...	Enteric Fever (3 cases)	Bootle ...
Sept. 3	<b>Lucania</b> ...	New York ...	Measles ...	... ..
Sept. 5	<b>Vancouver</b> ...	Montreal ...	Enteric Fever.	... ..
Sept. 17	<b>Campania</b> ...	New York ...	Smallpox ...	... ..
Sept. 19	<b>Bavarian</b> ...	Montreal ...	Enteric Fever.	Netherfield Road
Sept. 20	<b>Southwark</b> ...	Montreal ...	Enteric Fever.	Grafton Street...
Oct. 1	<b>Arracan</b> ...	Rangoon ...	Enteric Fever.	Grafton Street...
Oct. 10	<b>Vancouver</b> ...	Montreal ...	Enteric Fever (2 cases)	Netherfield Road
Oct. 11	<b>Marwarri</b> ...	Calcutta ...	Enteric Fever	... ..

---

REMARKS.

---

A case of Enteric Fever had been landed from this vessel at Montreal on the outward passage. Three of the crew were removed from their homes to the Bootle Hospital suffering from Enteric Fever a few days after arrival in this Port. These had not been notified to the Medical Officer of Health owing to the ship's Surgeon not recognising the earlier symptoms of the disease. Fumigation and disinfection was carried out, and the living quarters, w.c.'s and lavatories, which were in a filthy state, were cleansed and re-painted.

The patient, a child passenger, being convalescent on arrival and free from infection, was allowed to proceed. Vessel disinfected.

One of the crew of this vessel was left in Hospital at Montreal, suffering from Typhoid Fever. Disinfection was carried out at Montreal.

The patient, a steerage passenger, was landed and taken into Hospital at New York. The bed and bedding were destroyed, and complete disinfection carried out at New York. All contacts were re-vaccinated.

The patient, one of the passengers, was removed to the City Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

One of the Stewards of this vessel was removed to the City Hospital South, suffering from Typhoid Fever. The vessel and bedding were disinfected by the Port Sanitary Officers and City Staff.

The patient, the Second Officer, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patients, steerage passengers, were removed to the City Hospital North, and the vessel and bedding disinfected by the Port Sanitary Officers.

The Second Officer of this vessel, who was suffering from Typhoid Fever, was landed and taken into Hospital at Antwerp, disinfection of the vessel, &c.. being carried out by the Authorities at Antwerp.



Date 1904.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Oct. 15	<b>Barbary</b> ...	Monte Video..	Enteric ... Fever.	Netherfield Road
Oct. 22	<b>Merton Hall</b> ..	Karachi ...	Suspected ... Plague.	New Ferry ...
Oct. 31	<b>Tunisian</b> ...	Montreal ...	Enteric Fever	Netherfield Road
Oct. 31	<b>Tunisian</b> ...	Montreal ...	Scarlatina ...	... ..
Oct. 31	<b>Manchester Port</b>	Rosario ...	Enteric Fever (2 cases)	... ..
Nov. 3	<b>Highland Enterprise</b>	River Plate...	Enteric Fever	... ..
Nov. 4	<b>Barbadian</b> ...	New Orleans.	Enteric Fever	Grafton Street...
Nov. 5	<b>Merion</b> ...	Philadelphia .	Enteric Fever	Stanley ...
Nov. 5	<b>Teutonic</b> ...	New York ...	Typhus Fever	Netherfield Road
Nov. 19	<b>Allie</b> ...	Gaboon ...	Enteric Fever	Netherfield Road
Nov. 21	<b>Saxonia</b> ...	Boston ...	Enteric Fever	Netherfield Road

---

REMARKS.

---

The patient, one of the crew, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

A Lascar, one of the crew of this vessel, was removed to the Port Hospital for observation, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff. The case proved to be non-infectious.

The patient, a saloon passenger, was removed to the City Hospital North, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

One of the passengers, who was suffering from Scarlatina, was landed at Merville on the homeward passage.

Two of the crew were left in Hospital at Rosario. Disinfection was carried out on arrival at this Port.

One of the crew, a seaman, was landed at Las Palmas suffering from Enteric Fever. The vessel was disinfected by the crew.

One of the crew (a trimmer) was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, one of the crew, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, George Holbrook (a fireman), was removed to Hospital from his home, No. 15, Gerard Street. Disinfection carried out.

The patient, one of the crew, was removed to the City Hospital North, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The patient, one of the crew (a fireman), was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

Date 1904.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Nov. 22	<b>Canada</b> ...	Montreal ...	Enteric Fever	Netherfield Road
Nov. 22	<b>Oropesa</b> ...	West Coast of S. America	Smallpox ...	... ..
Nov. 28	<b>Tunisian</b> ...	Montreal ...	Diphtheria ...	... ..
Nov. 30	<b>Majestic</b> ...	New York ...	Measles ..	Park Hill ...
Nov. 30	<b>Cymric</b> ...	Boston ...	Enteric Fever	Mill Road ...
Dec. 3	<b>Umbria</b> ...	New York ...	Measles ...	Grafton Street...
Dec. 13	<b>Ivernia</b> ...	Boston ...	Enteric Fever	Grafton Street...
Dec. 14	<b>Lake Champlain</b>	Halifax ...	German ... Measles.	... ..
Dec. 17	<b>Conway</b> ...	Santos ...	Suspected ... Plague.	New Ferry ...



---

REMARKS.

---

The patient, a passenger, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

A case of Smallpox occurred on the outward passage. The patient was taken to Hospital, the crew and passengers vaccinated, and the vessel disinfected by the Authorities at Valparaiso.

The patient, a child saloon passenger, had recovered on arrival, and being free from infection was allowed to proceed. Disinfection carried out.

The patient, a Steward, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers.

One of the Stewards of this vessel, who was suffering from Enteric Fever, was admitted to the Mill Road Infirmary. The vessel and bedding were disinfected by the Port Sanitary Officers and City Staff.

The patient, one of the Stewards, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers.

One of the crew of this vessel was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

The Fourth Engineer had suffered from German Measles, but on arrival at this Port had recovered sufficiently to proceed to his home. The vessel and bedding were disinfected by the Port Sanitary Officers.

The patient, one of the crew, was removed to the Port Hospital for observation, and the vessel and bedding disinfected by the Port Sanitary Officers. The case proved to be non-infectious.

## SANITATION OF VESSELS.

---

For the purposes of the sanitary inspection of shipping, the Port Sanitary District is divided into four sub-districts, North, North Central, South, and Outlying, the latter including Birkenhead and Garston Docks. Four qualified Inspectors are daily employed in the sanitary inspection of shipping in the docks for conditions affecting the health of the crews.

During the year 3,522 vessels have been inspected, being an increase of 520 ships, as compared with the previous year.

On board these vessels 4,821 nuisances were discovered. 29·6 per cent. of these were due to wear and tear and stress of weather, such as leaky decks, defective bulkheads, broken portlights, defective food lockers, hatches, chain pipes and w.c. fittings. Sixty-four per cent. were due to inattention to cleanliness. This is a reduction of almost five per cent. on the year 1903. These include dirty forecastles, foul water casks, tanks, bilges and w.c.'s; also accumulations of offensive refuse.

2,292 re-visits were made during the year, as against 1,914 last year.

As regards the nationality of vessels inspected, there is a considerable increase in the number of British vessels, the number being 3,012. Next are Norwegian 185, Spanish 152, and German 51.

There is much room for improvement in the sanitary conditions under which the sailors live on board ship. Forecastles are badly lighted and ventilated, and the amount of cubic space (72 cubic feet) leaves much to be desired. The instructions to Surveyors issued by the Board of Trade are good, but need revision, and require to be brought up to date in the light of modern requirements. A few recently built ships coming to the

Mersey have made a distinct advance by providing ample sleeping accommodation for their crews, a separate room for meals and recreation, as well as wash-houses.

**Canal Boats.**—In making a census of canal boats in the Port Sanitary District, it was ascertained that many of these boats were to be found in the Liverpool docks and river, and many of these escape inspection under the Canal Boats Acts of 1877 and 1884, and the regulations made by the Local Government Board. Accordingly in the latter part of 1903 the Port Sanitary Inspectors were appointed Canal Boat Inspectors.

The regulations provide that there shall be at least one dry and clean cabin. The after-cabin must contain not less than 180 cubic feet of free air space, and the fore-cabin 80 cubic feet. There must be proper ventilation and sleeping accommodation. One cabin must contain a stove and chimney, and storage for three gallons of water must be provided.

If foul cargoes are carried the hold must be separated from sleeping cabins by a double bulkhead, with an interval of four inches, and the bulkhead nearest the cargo shall be watertight. A pump must be provided to remove any liquid accumulating in the space.

For persons over twelve years of age 60 cubic feet of air space, and for children, 40 cubic feet, shall be provided.

Certain provisions as regards sleeping room in cabins are also made for the proper separation of the sexes. Every three years the cabin to be re-painted, bilge-water to be pumped out daily, and any infectious disease arising on board to be reported to the Sanitary Authority.



During the year 495 inspections of canal boats were made under the above-mentioned Acts and regulations.

Of this number 83 were found to have infringed the legal requirements, and steps were taken to have the matters attended to.

As a rule, verbal or written notices were complied with within a short time.

The following are some of the conditions found:—Cabins dirty, defective and decayed water casks, leaky cabins, no certificates of registration, foul bilges allowing offensive gases and emanations to reach cabins, children on board not attending school (referred to Education Committee), defective ventilators. The ventilation of these small cabins is a matter of supreme importance. The fumes from defective stoves and emanations from the bilges under the cabin floor render the air of these cabins very injurious to health, and at times positively dangerous to life. This occurs more especially on those canal boats and barges which carry offensive cargoes, such as manure from stables and cattle boats, road sweepings, refuse from houses, stables, breweries and vegetable markets. During the past few years a comparatively large number of persons have been reported as having been overcome and suffocated by the noxious gases, and several of these occurred in Liverpool.

The Inspectors report daily to the Assistant Medical Officer, Dr. Hanna, and take action under his direct supervision as regards the general sanitation of vessels and canal boats. They also report and make enquiries regarding sickness of all kinds which has occurred on board ships coming into the Liverpool Docks.

## INSPECTION OF SHIPPING.

Year ending 1904.

## SUMMARY OF INSANITARY CONDITIONS.

TABLE 7.

Class of Vessels.	Number Inspected.	Number on which nuisances were found.	Per cent.
FOREIGN—			
Steamers ... ..	1,958	983	50·2
Sailing ... ..	206	133	64·5
Total ... ..	2,164	1,116	51·5
COASTWISE—			
Steamers ... ..	858	369	43·0
Sailing ... ..	500	218	43·6
Total ... ..	1,358	587	43·2

Nationality.	Number Inspected.	Number on which Nuisances were found.
British ... ..	3,012	1,376
Foreign ... ..	510	327
	3,522	1,703

## Nuisances arising through

Defects of Original Construction.	Per cent. of Total Defects.	Structural Defects through wear and tear.	Per cent. of Total Defects.	Dirt, and other conditions prejudicial to health.	Per cent. of Total Defects.
281	5·8	1,430	29·6	3,110	64·5

Total number 4,821. Average per vessel 2·8.

**The nuisances included the following:—**

*Original faults of construction :—*

Defective ventilation in crew's quarters	...	167	
„ lighting	„	13	
„ drainage	„	50	
Bare iron not sheathed	„	14	
W.c.'s deficient in ventilation and situation bad		37	
		—	281

*Structural defects through wear and tear :—*

Leaky decks overhead	...	258	
Defective stoves	...	102	
„ bulkheads	...	111	
„ portlights, skylights and deadlights..		553	
„ flooring boards	...	32	
„ hatches and lockers	...	46	
„ chain pipes	..	52	
„ hawse pipes	...	64	
„ w.c. fittings	..	212	
		—	1,430

*Inattention to cleanliness, &c. :—*

Dirty forecastles, &c.	...	1,597	
„ store rooms, wash houses and lockers	...	70	
Foul water casks and tanks	...	131	
„ bilges	..	11	
„ w.c.'s	...	1,098	
Accumulations of offensive refuse	...	40	
Gear stored in crew's quarters...	...	35	
Damp quarters	...	75	
Water lodging on top of fore peak tank	...	27	
Animals kept under conditions liable to cause a nuisance	...	26	
		—	3,110
Total	...	...	<u>4,821</u>

### Special Visits and Enquiries.

In addition to the sanitary inspection of shipping, Inspectors have other duties which may be classed under the above heading. Every Board of Trade clearance is attended, and any emigrants rejected for infectious complaints are taken charge of, and isolated if it is considered necessary. During the year 370 clearances were attended.

The necessary disinfection of vessels after the removal of infectious cases is also carried out by the Port Inspectors. They have also the duty of making enquiries into various outbreaks, and the supervision of contacts who may be working or living on board vessels in the docks.

The following Table indicates the number of visits paid to vessels by the Inspectors during the year :—

TABLE 8.

Nationality.		Visits.	Re-visits.	Total.
British ...	...	3,012	1,860	4,872
American	...	—	—	—
Norwegian	...	185	150	335
Swedish...	...	26	14	40
Austrian	...	7	7	14
Spanish ..	...	152	133	285
Danish ...	...	17	15	32
Portuguese	...	3	1	4
German ..	...	51	45	96
Italian ...	...	8	7	15
Belgian ..	...	7	4	11
Russian ..	...	29	42	71
French ...	...	13	7	20
Dutch ...	...	5	1	6
Greek ...	...	5	6	11
Argentine	...	1	—	1
Turkish	...	1	—	1
		<hr/>	<hr/>	<hr/>
		3,522	2,292	5,814
		<hr/>	<hr/>	<hr/>



## E M I G R A T I O N .

---

The number of emigrants leaving the Port of Liverpool has been steadily increasing during the last seven years. The highest figure on record was reached in 1904, when the very large total of 274,584 left the Port; this is an increase of almost 10,000 emigrants passing through the city as compared with the previous year.

The following is a return of the number of emigrants and clearances of ships, including those passenger vessels in which medical inspection was not required, from 1890-1904 :—

TABLE 9.

In 1890, 190,785 Emigrants, and 917 Clearances of Ships.

„ 1891, 206,418	„	933	„
„ 1892, 200,786	„	886	„
„ 1893, 167,468	„	808	„
„ 1894, 106,147	„	748	„
„ 1895, 117,196	„	723	„
„ 1896, 98,279	„	758	„
„ 1897, 87,414	„	723	„
„ 1898, 98,900	„	755	„
„ 1899, 118,568	„	714	„
„ 1900, 149,884	„	660	„
„ 1901, 167,452	„	761	„
„ 1902, 214,113	„	791	„
„ 1903, 265,918	„	902	„
„ 1904, 274,584	„	924	„

*The following Tables, Nos. 10 and 11, relating to Emigration, have been kindly supplied by the Board of Trade.*

TABLE 10.

Statement showing the Number of Passengers of each Nationality that left the Port of Liverpool for places out of Europe in the year 1904:—

DESTINATION.	NATIONALITY OF PASSENGERS.					
	English.	Scotch.	Irish.	Foreign.	Not distinguished.	Total.
British North America .....	54,024	2,426	859	21,552	86	78,947
Australia and New Zealand .....	2,007	408	242	61	6	2,724
British South Africa .....	1,103	303	130	53	2	1,591
India (including Ceylon).....	—	—	—	—	2,158	2,158
Other British Colonies and Possessions. )	26	20	2	1	2,270	2,319
Total British Empire .....	57,160	3,157	1,233	21,667	4,522	87,739
United States .....	67,165	3,752	6,122	104,709	1,375	183,123
Other Foreign Countries .....	732	319	151	329	2,191	3,722
Total Foreign Countries.....	67,897	4,071	6,273	105,038	3,566	186,845
Grand Total .....	125,057	7,228	7,506	126,705	8,088	274,584

TABLE 11.

Number of Passengers of each Nationality, as given in Table No. 10, that sailed from the Port of Liverpool in each month of the year 1904.

MONTH.	NATIONALITY OF PASSENGERS.					
	English.	Scotch.	Irish.	Foreigners	Not distin- guished.	Total.
January .....	3,366	292	164	3,658	653	8,133
February .....	4,833	369	153	4,706	508	10,569
March .....	11,320	478	328	12,646	428	25,200
April .....	13,334	565	556	10,392	421	25,268
May.....	11,576	639	493	9,966	385	23,059
June .....	10,942	836	494	10,761	366	23,399
July.....	11,979	471	508	10,004	651	23,613
August .....	16,047	725	1,203	14,387	699	33,061
September .....	19,155	1,207	1,635	16,087	1,093	39,177
October .....	11,021	747	1,156	12,482	1,176	26,582
November .....	7,292	538	567	12,612	1,050	22,059
December .....	4,192	361	249	9,004	658	14,464
Total .....	125,027	7,228	7,506	126,705	8,088	274,584

### Emigrant Inspections.

The medical inspection of emigrants on board the outward bound steamers is carried on by Dr. Hill and Dr. Spooner, Medical Officers appointed by the Board of Trade. Emigrants showing symptoms of illness, or coming from localities where infection is rife, are liable to be rejected. One of the Port Sanitary Inspectors is present at these Board of Trade clearances.

There were 370 inspections during the year 1904, and 125 persons (mostly children) rejected on account of disease of an infectious nature, or under suspicion of developing such. These persons are taken charge of by the Inspector, who makes the necessary arrangements for their removal, if necessary, to hospital.

In addition to the above-mentioned Board of Trade medical inspection, many hundreds of emigrants were rejected by ships' surgeons and companies' doctors on account of suffering from a disease named trachoma, an infectious complaint of the eyes, and persons afflicted are not allowed to land in America. This disease has been recognised for many years. The eyes are red and inflamed; there is much pain and irritation, with watery or yellow discharge, and avoidance of light. It has only come into prominence of late from a health standpoint owing to the danger of the disease spreading to healthy people. The frequency of trachoma varies very much in different districts and communities. It is mostly met with in overcrowded populations where the people are ill-fed and living in damp and unfavourable hygienic surroundings. In foreign towns the Jewish quarters furnish the largest percentage of cases. This disease, like tuberculosis, is associated with low vitality in the patient, and the two diseases are frequently associated. The disease is not highly contagious, but there is reason to suppose that it may spread in rooms which are badly ventilated. It was at one time very common in armies, and in some workhouse schools at the present time it is not uncommon. Adults and grown-up children are more often attacked than young children.



TABLE 12.

## PARTICULARS OF REJECTIONS OF EMIGRANTS.

Date, 1904.	Name of Vessel.	Nature of Sickness.	Where taken to.	Description of Patient.
Feb. 16	<b>Lake Erie</b> ...	Measles ...	Brownlow Hill Hospital...	Child
March 26	<b>Lucania</b> ...	Whooping Cough..	Returned ashore ...	Child
„ 29	<b>Ivernia</b> ...	Scabies ...	Returned ashore ...	Child
April 5	<b>Lake Manitoba</b>	Chicken-pox ...	Brownlow Hill Hospital...	Child
„ 6	<b>Westernland</b>	Mumps ...	Returned ashore ...	Child
„ 28	<b>Southwark</b> ...	Chicken-pox ...	Boarding-house ... Hunter Street	Child
„ 29	<b>Celtic</b> ...	Alcoholism ...	Returned ashore ...	Adult
May 5	<b>Cymric</b> ...	Ringworm ...	Brownlow Hill Hospital...	Adult
„ 12	<b>Vancouver</b> ...	Ophthalmia ...	Boarding-house ... 109, Duke Street	Child
„ 17	<b>Aurania</b> ...	Alcoholism ...	Returned ashore ...	Adult
„ 18	<b>Haverford</b> ...	Ringworm ...	Returned ashore ...	Children (2)
„ 24	<b>Lake Champlain</b>	Alcoholism ...	Returned ashore ...	Adult
„ „	<b>Ivernia</b> ...	Measles ...	Boarding-house ... Great George Sq.	Child
„ 26	<b>Republic</b> ...	Scarlet Fever ...	City Hospital, Parkhill ...	Child
„ „	„ ...	Scabies ...	Brownlow Hill Hospital...	Children (2)
June 2	<b>Southwark</b> ...	Erysipelas ...	Boarding-house ... Great George Sq.	Adult

TABLE 12.—*Continued.*

Date, 1904.	Name of Vessel.	Nature of Sickness.	Where taken to.	Description of Patient
June 2	<b>Bavarian</b> ...	Measles ...	Boarding-house ... Kent Square	Child
„ 4	<b>Campania</b> ...	Measles ...	City Hospital, Parkhill ...	Children (5)
„ 7	<b>Saxonia</b> ...	Favus ...	Boarding-house ... Great George Sq.	Child
„ 8	<b>Majestic</b> ...	For observation ...	Boarding-house ... 130, Duke Street	Child
„ 10	<b>Arabic</b> ...	Scabies ...	Boarding-house ... 130, Duke Street	Children (2)
„ 15	<b>Oceanic</b> ...	Chicken-pox ...	Brownlow Hill Hospital...	Child
„ 16	<b>Tunisian</b> ...	Scabies ...	Boarding-house ... Kent Square	Infant
„ „	<b>Cretic</b> ...	Ophthalmia ...	Boarding-house ... Paradise Street	Child
„ 21	<b>Ivernia</b> ...	Chicken-pox ...	Brownlow Hill Hospital...	Child
„ „	„ ...	Whooping Cough..	Boarding-house ... Great George Sq.	Infant
„ „	„ ...	For observation ...	Boarding-house ... Great George Sq.	Infant
July 8	<b>Cedric</b> ...	For observation ...	Boarding-house ... 130, Duke Street	Child
„ 13	<b>Oceanic</b> ...	For observation ...	Boarding-house ... 130, Duke Street	Child
„ 16	<b>Lucania</b> ...	Whooping Cough.,	Returned ashore ...	Child
„ 19	<b>Ivernia</b> ...	Measles ...	Boarding-house ... Great George Sq.	Child Infants (2)
„ 22	<b>Celtic</b> ...	For observation ...	Boarding-house ... 120, Duke Street	Child
„ 23	<b>Buenos Ayrean</b> ...	Chicken-pox ...	City Hospital, Fazakerley.	Child
„ 27	<b>Baltic</b> ...	Eczema ...	Returned ashore ...	Child

TABLE 12.— *Continued.*

Date, 1904.	Name of Vessel.	Nature of Sickness.	Where taken to.	Description of Patient.
July 28	<b>Kensington</b> ...	Measles ...	Returned home ...	Child
„ „	„ ...	Favus ...	Boarding-house ...	Children (2)
„ „	<b>Republic</b> ...	Scabies ...	Returned to Birkenhead...	Child
Aug. 3	<b>Saxonia</b> ...	Chicken-pox ...	City Hospital, Parkhill ...	Children (2)
„ „	„ ...	Chicken-pox ...	Returned home ...	Infant
„ 5	<b>Cedric</b> ...	Smallpox Contacts	Boarding-house ... Parr Street	Adults (8) Child
„ 10	<b>Oceanic</b> ...	For observation ...	Boarding-house ... 130, Duke Street	Child
„ „	„ ...	Scabies ...	Boarding-house ... 130, Duke Street	Children (8)
„ 11	<b>Cretic</b> ...	Scabies ...	Boarding-house ... 39, Paradise Street	Child
„ „	„ ...	Ophthalmia ...	Boarding-house ... 39, Paradise Street	Child
„ 17	<b>Teutonic</b> ...	Ringworm ...	Returned ashore ...	Adult
„ 24	<b>Westernland</b>	Favus ...	Boarding-house ... Great George Sq.	Child
„ „	<b>Baltic</b> ...	Erysipelas ...	Brownlow Hill Hospital...	Adult
„ 31	<b>Majestic</b> ...	Alcoholism ...	Returned ashore ...	Adult
Sept. 1	<b>Cymric</b> ...	Scabies ...	Returned ashore ...	Child
„ 2	<b>Cedric</b> ...	Scabies ...	Boarding-house ... 130, Duke Street	Children (18)
„ 6	<b>Aurania</b> ...	Scabies ...	Boarding-house ... Gt. George Sq.	Children (4)
„ 7	<b>Oceanic</b> ...	Scabies ...	Boarding-house ... 130, Duke Street	Children (3)

TABLE 12—*continued*.

Date, 1904.	Name of Vessel.	Nature of Sickness.	Where taken to.	Description of Patient.
Sept. 7	<b>Friesland</b> ...	Favus ...	Returned ashore ...	Adult
„ 8	<b>Cretic</b> ...	Scabies ...	Returned ashore ...	Children (2)
„ 9	<b>Arabic</b> ...	For observation ...	City Hospital, Parkhill ...	Child
„ 14	<b>Noordland</b> ...	Skin Disease ...	Returned to Bradford ...	Adult
„ „	<b>Teutonic</b> ...	Measles ...	City Hospital, Parkhill ...	Child
„ 15	<b>Ionian</b> ...	Lupus ...	Returned to London ...	Adult
„ 22	<b>Republic</b> ...	Scabies ...	Boarding-house ... 130, Duke Street	Children (6)
„ „	„ ...	Sore Eyes...	Boarding-house ... 130, Duke Street	Child
„ 28	<b>Majestic</b> ...	Chicken-pox ...	Brownlow Hill Hospital...	Child Infant
Oct. 14	<b>Celtic</b> ...	Measles ...	City Hospital, Grafton Street	Child and Infant
„ 19	<b>Baltic</b> ...	Alcoholism ...	Returned ashore ...	Adult
„ 22	<b>Campania</b> ...	Chicken-pox ...	Brownlow Hill Hospital...	Infant
„ 25	<b>Saxonia</b> ...	Favus ...	Boarding-house ... Great George Sq.	Adult
Nov. 1	<b>Lake Manitoba</b>	Chicken-pox ...	City Hospital, New Ferry.	Child
„ 9	<b>Majestic</b> ...	Ophthalmia ...	Returned ashore ...	Child
Dec. 14	<b>Merion</b> ...	Scabies ...	Returned ashore ...	Child
„ 31	<b>Lucania</b> ...	Favus ...	Returned ashore ...	Child



It is noteworthy that there has been so little sickness among the large number of emigrants passing through the City. Only 36 out of the large total of 274,584 were found to be suffering from infectious disease. These were children affected with chicken pox, measles or scarlatina. The number rejected on account of non-infectious sickness is also small, and the temporary ailments from which they suffered, and which resulted in postponement of their journey, do not call for special comment.

TABLE 13.

The number of Emigrants found to be suffering from infectious sickness on their arrival by land in Liverpool, and sent to Hospital, and the average for the preceding ten years, are shown in the following table:—

Diseases.	1904.			Average for preceding 10 years.	
	Number of Cases.				
Cholera	...	...	...	0	0·0
Diarrhœa	...	...	..	0	0·0
Smallpox	...	...	...	0	0·5
Enteric Fever		...	..	1	0·2
Scarlatina	...	..	...	1	3·4
Diphtheria	...	...	...	0	0·7
Measles	...	...	...	19	6·1
Chicken Pox	...	...	...	15	1·6
Totals	...		.	36	12·6

During the year the Port has remained entirely free from those forms of sickness which tend to cause interference with commercial business by leading to quarantine in foreign Ports.

As in previous years, the various Authorities connected with the administration of the Port have co-operated with the Port Sanitary Authority in all particulars.

E. W. HOPE, M.D.

MUNICIPAL OFFICES,

LIVERPOOL, *30th March*, 1905.



## **APPENDIX.**

### **International Sanitary Convention, 1903.**

---

The representatives of British and foreign Governments met in Paris, in October, 1903, to consider the revision of the Venice Convention of 1897, and to advise as to the best means of combating plague, cholera and yellow fever in the light of our present day knowledge of these diseases.

The following is a translation of some of the more important resolutions drawn up:—

#### **GENERAL PROVISIONS.**

---

##### **CHAPTER I.**

Provisions to be observed by the Countries signing the Convention on the appearance of Plague or Cholera in their Territory.

---

Section 1.—Notification and subsequent communications to the other Countries.

Art. 1.—Every Government must immediately notify to the other Governments the first appearance of recognised cases of plague or cholera in its territory.

Art. 2.—Such notification shall be accompanied or very promptly followed by detailed information as to:—

- (1) Where the disease has appeared;
- (2) The date of its appearance, its source, and its type;
- (3) The number of known cases and deaths;
- (4) In the case of plague, the presence of that disease, or of unusual mortality among rats or mice;
- (5) The measures taken immediately on the first appearance of the disease.

Art. 3.—The notification and the information prescribed in Articles 1 and 2 shall be supplied to the diplomatic or consular agencies in the capital of the infected country. In the case of countries not represented there, the notification and the information shall be telegraphed direct to the Governments of these countries.



Art. 4.—The notification and the information prescribed in Articles 1 and 2 shall be followed by subsequent communications furnished regularly, and in such fashion as to keep the Governments informed of the course of the epidemic. These communications shall be made at least once a week, shall be as complete as possible, and shall, in particular, indicate the precautions adopted with a view to prevent spread of the disease. They must set out with precision :—

(1) The preventive measures taken in the way of sanitary inspection or of medical investigation, of isolation, and of disinfection ;

(2) The measures adopted in the case of outgoing vessels to prevent exportation of the disease, and, particularly, in the case contemplated in Art. 2 (4), the measures taken against rats.

Art. 5.—It is of primary importance that the foregoing provisions be promptly and scrupulously complied with. Notification is of no real value unless every Government be itself informed, in time, of cases of plague and cholera, and also of doubtful cases occurring in its territory. It cannot, therefore, be too strongly impressed on the several Governments that they should make notification of plague and cholera compulsory, and that they should keep themselves informed as to any unusual mortality among rats or mice, particularly in ports.

Section 2.—The conditions under which a local area may be regarded as infected or as having ceased to be infected.

Art. 7.—The notification of a first case of plague or cholera shall not lead to the adoption of the measures prescribed in the following Chapter 2 against the local area in which the case has occurred. But when several non-imported cases of plague have occurred, or when the cases of cholera constitute a foyer, the local area shall be declared infected.

Art. 9.—In order that a local area cease to be regarded as infected it must be officially established (1) that no death from nor fresh case of plague or cholera has occurred within the five days following either the isolation or the death or recovery of the last case of plague or cholera ; (2) that all measures of disinfection have been carried out, and that, in the case of plague, measures have been taken against rats.

## CHAPTER II.

Measures of defence on the part of the other Countries against territories that have been declared infected.

---

Section 2.—Merchandise. Disinfection. Importation and Transit, Baggage.

Art. 11.—No article of merchandise is in itself capable of conveying plague or cholera. Merchandise becomes dangerous only when contaminated by plague or cholera products.

Art. 12.—Only such merchandise and things as the local Sanitary Authority considers infected may be subjected to disinfection. Provided always that the merchandise or things hereinafter specified may be subjected to disinfection, or their importation may even be prohibited, irrespective of any evidence as to whether or not they are infected:—(1) Body linen, wearing apparel, bedding that has been in use. But when these things are carried as baggage, or in consequence of a change of abode (household goods), their importation may not be prohibited, but they shall be dealt with as prescribed in Article 19. Soldiers' and sailors' kits, returned to their country after their death, are to be regarded as of the nature of the things specified in the first sentence of (1) of this article. (2) Rags, save in the case of cholera, rags compressed and carried in bound bales as merchandise in bulk. The importation of the following articles may not be prohibited:—Fresh waste derived directly from spinning, weaving, making up, or bleaching establishments; artificial wools (Kunstwolle, shoddy) and new paper clippings.

Art. 15.—It rests with the authority of the country to which the merchandise and things are consigned to decide in what manner and at what place disinfection shall be carried out, and what shall be the methods adopted to secure destruction of rats. These operations must be performed in such fashion as to injure articles as little as possible. It rests with each State to settle questions of consequent compensation for damage caused by measures of disinfection or of rat destruction. If, on account of measures taken to secure destruction of rats on board ship, charges are levied by the Sanitary Authority either directly or indirectly through a company or a private persons, the rates of these charges must be in accordance with a tariff made public beforehand, and so drawn up that the State or the Sanitary Authority shall, on the whole, derive no profit from its application.

Art. 17.—Merchandise, whether it has come by land or by sea, may not be detained at frontiers or at ports. The only measures that may be taken are those specified in the foregoing Article 12. Provided always that if merchandise, which has come by sea, and is either not packed or imperfectly packed, has become infected during the voyage by rats ascertained to have plague, and if such merchandise cannot be disinfected, the destruction of the germs may be secured by storing the merchandise during a period not to exceed two weeks. It is to be understood that the application of this measure shall not in any way delay the ship, nor give rise to extra expense by reason of deficient storage accommodation in any port.

### Section 3.—Measures at Ports and Land Frontiers.

Art. 20.—CLASSIFICATION OF SHIPS.—A ship shall be regarded as infected if there is plague or cholera on board, or if there have been one or more cases of plague or cholera on board within seven days.

A ship shall be regarded as suspected if there have been cases of plague or cholera on board at the time of departure or during the voyage, but no fresh case within seven days.

A ship shall be regarded as healthy, notwithstanding its having come from an infected port, if there has been no death from nor case of plague or cholera on board either before departure or during the voyage or on arrival.

### PLAGUE.

Art. 21.—In the case of plague, infected ships shall undergo the following measures :—

- (1) Medical inspection ;
- (2) The sick shall immediately be disembarked and isolated ;
- (3) The other persons must also be disembarked, if possible, and either be kept under observation during a period which shall not exceed five days, and which may or may not be followed by surveillance of not more than five days' duration, or merely be subjected to surveillance during a period which shall not exceed ten days. The period shall date from the arrival of the ship. It rests with the Sanitary Authority of the port, after taking into consideration the date of the last case, the condition of the ship, and the local possibilities, to take that one of these measures which seems to them preferable ;



(4) Such soiled linen, wearing apparel, and articles belonging to the crew and passengers as are, in the opinion of the Sanitary Authority, infected, shall be disinfected ;

(5) The parts of the ship that have been occupied by persons ill with plague, or that, in the opinion of the Sanitary Authority, are infected, must be disinfected ;

(6) The rats on board must be destroyed, either before or after discharge of cargo, as quickly as possible, and in any case within a maximum time of forty-eight hours, and so as to avoid damage to merchandise and to the ship's plating and engines. In the case of ships in ballast, this process must be carried out as soon as possible before taking cargo.

Art. 22.—In the case of plague, suspected ships shall undergo the measures specified in (1), (4) and (5) of Article 21.

In addition, the crew and passengers may be subjected to surveillance, the duration of which, dating from the arrival of the ship, shall not exceed five days. The crew may, during the same period, be prevented from leaving the ship, except on duty.

Destruction of rats on board is recommended. This process shall be carried out, either before or after discharge of cargo, as quickly as possible, and in any case within a maximum time of forty-eight hours, and so as to avoid damage to merchandise and to the ship's plating and engines. In the case of ships in ballast, this process, if there be occasion for it, shall be carried out as soon as possible, and in any case before taking cargo.

Art. 23.—In the case of plague, healthy ships shall be given free pratique immediately, whatever the bill of health may be. The only measures which the authority of the port of arrival may take as regards these ships are the following :—

(1) Medical inspection ;

(2) Disinfection of soiled linen, wearing apparel, and other articles belonging to the crew and passengers, but only in exceptional instances, when the Sanitary Authority has special reasons for regarding them as infected ;

(3) The Sanitary Authority may subject ships from an infected port to a process intended to secure destruction of rats



on board, either before or after discharge of cargo, although this measure must not be resorted to as a general rule. This process must be carried out as soon as possible, and in any case must not take longer than twenty-four hours, and so as to avoid damage to merchandise and to the ship's plating and engines, and also so as not to interfere with the coming and going of passengers and crew between ship and shore. In the case of ships in ballast, the process, if there be occasion for it, shall be carried out as soon as possible, and in any case before taking cargo.

If a ship from an infected port has been subjected to measures of rat-destruction, these cannot be repeated unless the ship has called at an infected port, and was there brought up to the quay, or unless sick or dead rats are found on board.

The crew and passengers may be subjected to surveillance during a period which shall not exceed five days, reckoned from the date on which the ship left the infected port. The crew may, during the same period, be prevented from leaving the ship except on duty.

The competent authority at the port of arrival may in all cases exact a certificate, given on oath, from the doctor of the ship, or, in his default, from the Captain, testifying that there has not been a case of plague on board since departure, and that unusual mortality among rats has not been observed.

Art. 24.—When rats on a healthy ship have been shown by bacteriological examination to have plague, or when unusual mortality among these rodents has been observed, the measures to adopt are as follows:—

1. Ships with rats having plague—

(a) Medical inspection;

(b) The rats must be destroyed, either before or after discharge of cargo, as quickly as possible, and in any case within a maximum time of forty-eight hours, and so as to avoid damage to merchandise and to the ship's plating and engines. Ships in ballast shall undergo this process as soon as possible, and in any case before taking cargo;

(c) Such parts of the ship and such articles as the local Sanitary Authority regards as infected shall be disinfected;

(*d*) the passengers and crew may be subjected to surveillance during a period which must not exceed five days, reckoned from the date of arrival, save in exceptional instances, in which the Sanitary Authority may prolong the surveillance up to not more than ten days.

2. Ships on which unusual mortality among rats has been observed :

(*a*) Medical inspection ;

(*b*) the rats shall be examined for plague as far and as quickly as possible ;

(*c*) If it be considered necessary to destroy the rats, such destruction shall take place subject to the conditions specified above as regards ships with rats having plague ;

(*d*) Until all suspicion shall have been removed, the passengers and crew may be subjected to surveillance for a period which shall not exceed five days, reckoned from the date of arrival, save in exceptional instances, in which the Sanitary Authority may prolong the surveillance up to not more than ten days.

#### CHOLERA.

Art. 26.—In the case of cholera, infected ships shall undergo the following measures :—

(1) Medical inspection ;

(2) the sick shall be immediately disembarked and isolated ;

(3) the other persons must also be disembarked, if possible, and either be kept under observation, or subjected to surveillance during a period which shall vary with the health conditions of the ship and the date of the last case, but which shall not exceed five days, reckoned from the arrival of the ship ;

(4) Such soiled linen, wearing apparel, and articles belonging to the crew and passengers as are, in the opinion of the Sanitary Authority of the port, infected, shall be disinfected ;

(5) The parts of the ship that have been occupied by persons ill with cholera, or that the Sanitary Authority regard as infected, shall be disinfected ;

(6) The bilge-water shall be disinfected and pumped out.

The Sanitary authority may order that a supply of wholesome drinking water be substituted for that stored on board.

Casting human excreta, or allowing them to pass, without preliminary disinfection, into the waters of the port may be prohibited.

Art. 27.—In the case of cholera, suspected ships shall undergo the measures prescribed in (1), (4), (5) and (6) of Article 26.

The crew and passengers may be subjected to surveillance during a period which must not exceed five days, reckoned from the arrival of the ship. It is recommended that the crew be prevented, during the same period, from leaving the ship except on duty.

Art. 28.—In the case of cholera, healthy ships shall be given free pratique immediately, whatever their bill of health may be.

The only measures that the Authority of the port of arrival may prescribe as regards these ships are those specified in (1), (4) and (6) of Article 26.

The crew and passengers may be subjected to surveillance in respect of their state of health, during a period which must not exceed five days, reckoned from the date on which the ship left the infected port. It is recommended that the crew be prevented, during the same period, from leaving the ship except on duty.

The competent authority at the port of arrival may, in all cases, exact a certificate, given on oath, from the doctor of the ship or, in his default, from the captain, testifying that there has not been a case of cholera on board since departure.

#### YELLOW FEVER.

Art. 182.—The countries are recommended to modify their sanitary regulations in such fashion as to bring them into harmony with the present scientific data as to the manner in which yellow fever is transmitted, and, in particular, as to the part played by mosquitoes in carrying the germs of the disease.



# PORT OF LIVERPOOL.

1904.





